

RS FACT SHEET

Study Group: 8B

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Doc. Title **Clarification of ITU-R Rec. M.541 and M.493 (Digital Selective Calling)**

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Purpose/Objective:

The purpose of this document is to obtain clarification of two issues regarding the two ITU-R recommendations concerning digital selective calling in the maritime mobile service. The answer will be used as guidance to operators of DSC coast stations and two users of the standards. No specific recommendation changes are proposed, though the clarification may result in some minor changes.

Abstract:

The document requests clarification on how a coast station should acknowledge an all-ships distress relay transmission which it receives, and whether Recommendation M.541 is intended to apply to operator procedures only, or operator procedures and equipment design.

Clarification of ITU-R Rec. M.541 and M.493 (Digital Selective Calling)

Introduction.

Certain questions have been raised during the development and operational use of digital selective calling equipment concerning ITU-R Recommendations M.541 (Operational Procedures for the Use of Digital Selective-Calling Equipment in the Maritime Mobile Service) and M.493 (Digital Selective-Calling System for Use in the Maritime Mobile Service). The United States requests clarification of certain provisions of these recommendations.

Coast station acknowledgment of MF/HF all-ship distress alert relays

U.S. MF coast stations receive on average up to about a half dozen all-ship distress alert relays each month. HF coast stations have received up to several dozen each month. The question asked is whether a coast station should transmit a DSC acknowledgment in response to an all-ships distress alert relay, and if so, what end of sequence (EOS) symbol should be transmitted with it?

Rec. M.541-8 Annex 1 para 3.4.3 states "Distress relay calls transmitted by coast stations, or by ship stations addressed to "all ships", should be acknowledged by ship stations using radiotelephony. Distress relay calls transmitted by ships should be acknowledged by a coast station transmitting a "distress relay acknowledgement" call in accordance with the procedures for distress acknowledgements given in § 3.3 to 3.3.3". § 3.3 to 3.3.3 refers to procedures for responding to distress calls. Annex 4 para 1.4 states in part: "The receipt of the distress relay call is to be acknowledged as soon as possible by the appropriate coast station using a DSC distress relay acknowledgement addressed to the ship station."

Rec. M.493-9 appears to have been developed around the principal that, except for distress calls, calls addressed to more than one recipient should not be acknowledged by DSC. Distress calls have their own acknowledgment protocol, shown in Figure 4 c). Figure 4 requires that "If the format specifier (to a distress relay) is "all-ships", then the end of sequence" character is symbol No. 127." An EOS 127 is used for calls that do not require acknowledgment (paragraph 9).

The U.S. has interpreted Rec. M.541-8 as requiring a DSC acknowledgment be transmitted by a coast station for every all-ship distress relay received, using an EOS of 127 (the required symbol for calls to all ships), and its coast stations operate under that interpretation. Other administrations have indicated to us that they have interpreted the recommendation as requiring an acknowledgment by voice only. The question is not trivial: an acknowledgment of every all-ships distress relay triggers the distress alarm of every DSC shipboard radio in propagation range, in accordance with the requirements of Rec. M.541-8 recommends 3.3. Also, at least one manufacturer decodes and

displays such an acknowledgment as an all-ships distress relay (note that the protocol for distress relays and distress relay acknowledgements, described in Rec. M.493-9 Fig 4 b), are nearly identical).

Application of Recommendation M.541

The title of Recommendation M.541-8 is “Operational Procedures for the Use of Digital Selective-Calling Equipment in the Maritime Mobile Service”. However, certain requirements in M.541, such as recommends 3, refer to equipment requirements rather than operational procedures. Some Administrations have interpreted this recommendation as applying only to persons who operate DSC equipment, as implied by its title and stated in its summary. Others have interpreted this as applying to both equipment and to operators, including equipment software, as implied by the text in recommends 3, and because the complexity of the procedures require software assistance in its operating the equipment.

The question asked is whether Rec. M.541 is intended to be applied to persons operating DSC equipment, or to both the design of the equipment and to the persons who operate it?